Bonneville Power Administration
Fish and Wildlife Program FY99 Proposal

Section 1. General administrative information

Bull trout population assessment in the Columbia River Gorge, WA

Bonneville project number, if an ongoing project 9095

Business name of agency, institution or organization requesting funding

Business acronym (if appropriate) WDFW

Proposal contact person or principal investigator:

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Subcontractors.

Organization	Mailing Address	City, ST Zip	Contact Name
Yakama Indian Nation	P.O. Box 151	Toppenish, WA 98908	Lynn Hatcher

NPPC Program Measure Number(s) which this project addresses.

NMFS Biological Opinion Number(s) which this project addresses.

Other planning document references.

Subbasin.

Short description.

Determine status of bull trout populations in Wind, Little White Salmon, White Salmon

and Klickitat River Subbasins and develop and implement management plans for these populations.

Section 2. Key words

Mark	Programmatic Categories	Mark	Activities	Mark	Project Types
	Anadromous fish		Construction		Watershed
X	Resident fish		O & M		Biodiversity/genetics
	Wildlife		Production	X	Population dynamics
	Oceans/estuaries		Research		Ecosystems
	Climate	X	Monitoring/eval.		Flow/survival
	Other	+	Resource mgmt		Fish disease
			Planning/admin.		Supplementation
			Enforcement		Wildlife habitat en-
			Acquisitions		hancement/restoration

Other keywords.

Stock identification, DNA, life history, stock abundance, stock distribution

Section 3. Relationships to other Bonneville projects

Project #	Project title/description	Nature of relationship
N/A		

Section 4. Objectives, tasks and schedules

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Develop and test methodologies	a	Complete and field test methods, and conduct preliminary sampling
2	Determine presence/absence of bull trout in subbasins.	a	Conduct presence/absence surveys in subbasin tributaries to document bull trout occurrence.
3	Determine genetic characteristics of bull trout found in subbasin tributaries.	a	Conduct microsattelite DNA analysis on fin tissue samples
4	Determine available habitat at critical life history stages in the subbasins.	a	Conduct habitat surveys to quantify spawning, rearing and overwintering habitats.

5	Determine limiting factors for bull trout production in subbasins.	a	Conduct surveys to collect data on selected biotic and abiotic factors.
6	Develop and implement management actions for bull trout in the subbasins.	a	Analyze information and develop management plan
		b	Implement management actions

Objective schedules and costs

Objective #	Start Date mm/yyyy	End Date mm/yyyy	Cost %
1	10/1998	10/1999	100
2	10/1999	10/2002	25
3	10/1999	10/2002	25
4	10/1999	10/2002	25
5	10/1999	10/2002	25
6	10/2002	10/2007	100

Schedule constraints.

Completion date.

Section 5. Budget

FY99 budget by line item

Item	Note	FY99
Personnel		85,227
Fringe benefits		27,273
Supplies, materials, non-expendable property		8,000
Operations & maintenance		
Capital acquisitions or improvements (e.g. land, buildings, major equip.)		
PIT tags	# of tags:	
Travel		5,550
Indirect costs		23,950
Subcontracts		
Other		
TOTAL		150,000

Outyear costs

Outyear costs	FY2000	FY01	FY02	FY03
Total budget	200,000	200,000	200,000	200,000
O&M as % of total				

Section 6. Abstract

This project will provide critical information to determine the status of bull trout populations in the Wind, Little White Salmon, White Salmon and Klickitat subbasins and to develop and implement required management actions to ensure healthy populations are restored and maintained. These actions are called for in section 10.5A.6 of the Fish and Wildlife Program. Methods used are technically sound and are used basin wide. A management plan will be completed with actions implemented. Standards for performance measures will be set in the statement of work.

Section 7. Project description

a. Technical and/or scientific background.

The Columbia River bull trout population segment distributed throughout the Columbia River Basin is currently proposed for listing as Threatened by the U.S. fish and Wildlife Service (USFWS) under the Endangered Species Act of 1973 as amended (ACT), with a special 4(d) rule allowing for take in accordance with applicable State fish and wildlife conservation laws and regulations (Department of the Interior, Fish and Wildlife Service 1997). A final rule is scheduled to be published in the Federal Register in June 1998.

The Washington Department of fish and Wildlife has completed an inventory of the existing information for native char in Washington and published these results (WDFW 1997). Limited information exists for bull trout in the Columbia Gorge, Washington (Wind, Little White Salmon, White Salmon and Klickitat subbasins).

Observations of bull trout in the Wind and Little White Salmon subbasins are rare. Currently it is thought that bull trout do not inhabit these subbasins except as adults and that the adults observed are possibly of Hood River origin.

The White Salmon River Subbasin is believed to contain a distinct bull trout stock based on limited observations by WDFW staff of subadult bull trout above the Condit Dam.

Bull trout in the Klickitat River subbasin have been identified as a distinct stock. Bull trout have been observed in the West Fork Klickitat and Trappers Cr. It is unknown what life history form these char exhibit. There are no migration barriers between there observed occurrence and the Mainstem Columbia River.

Based on limited genetic, geographic, life history and inferences made from other salmonid species the bull trout in these subbasins have been grouped to form a potential Genetic Diversity Unit (Crawford 1997).

This project is designed to meet the objectives identified in section 10.5A.6 of the Northwest Power Planning Council=s Fish and Wildlife Program to complete population status assessments and to implement on-the-groung actions to restore and maintain healthy populations of native bull trout in the Columbia Gorge.

b. Proposal objectives.

The objectives for this project are listed below:

1) Determine presence and abundance of juvenile and adult bull trout in the Wind, Little White Salmon, White Salmon and Klickitat subbasins. The product of this objective will be geographically based assessment of the distribution and abundance estimates of bull trout in these subbasins by critical life history stage.

2) Assess the genetic make up of char found in these subbasins relative to bull trout stocks in the region. The product of this objective will be an evaluation of the genetic make up of the fish samples. This information will be used to evaluate the species of char in these subbasins and to evaluate the preliminary stock and Genetic Diversity Unit designations for bull trout in these subbasins.

3) Determine the amount of suitable bull trout habitat by critical life history stage available in these subbasins. The product of this objective will be quantifying the amount of spawning, rearing, and overwintering habitat currently available within these subbasins. This information will be used in part for the limiting factors analysis.

4) Determine the limiting factors for bull trout production in these subbasins. The product of this objective will be identification of limitations to bull trout production and will be used to develop a management plan for bull trout in these subbasins.

5) Develop a management plan for bull trout in these subbasins. The product of this objective will be a plan with specific management actions for recovery and maintaining healthy populations of bull trout.

c. Rationale and significance to Regional Programs.

This project directly addresses FWP measures in Section 10.5.A and objectives under section 10.5A.6. This project furthers the goal of completing evaluations of bull trout populations and implementing on-the-ground actions to address the needs of bull trout. This work will be conducted by the WDFW and YIN. Coordination of project activities will be done in the context of ongoing project work in central Oregon by ODFW and others.

d. Project history

N/A

e. Methods.

Methods for each objective are summarized below by objective number described above:

6) Methods and analysis used to determine presence, abundance and distribution of juvenile and adult bull trout are described in Bonar et al. (1997). Methods including snorkeling, foot surveys and electrofishing will be used for statistical surveys. Bull trout presence will be tested at a threshold value of 0.15 fish/100m.

7) Nonlethal sampling of anal fin tissue samples of char will be collected from 50 individuals in natal areas and analyzed using microsattelite DNA protocols. These data will be analyzed similar to that of Spruell and Allendorf (1997).

8) Surveys and analysis will be conducted to determine the amount of potential bull trout habitat by critical life history stage as described in Kalispel Natural Resource Department and Washington Department of Fish and Wildlife (1997).

9) Assessment of key factors including instream habitat, passage barriers, non-native salmonid species interactions etc. Current conditions will be compared to bull trout requirements to determine potential limiting factor for bull trout production.

10) A comprehensive management plan will be completed for bull trout in these subbasins that identify on-the-ground actions needed to recover and manage bull trout. Quantitative standards will be identified for each performance measure related to addressing limiting factors. These actions will be evaluated using the identified performance measures. Actions will be modified as required to achieve the standards set for each performance measure.

f. Facilities and equipment.

Major equipment for this project is limited to the genetics laboratory at the Washington Department of Fish and Wildlife Office. This laboratory has recently been completed for analysis of microsattelite DNA analysis and meets contemporary standards.

Other equipment including vehicles, computers, Office space etc. will be leased as needed.

g. References.

Bonar, S.A., M. Divens, and B. Bolding. 1997. Methods for sampling the distribution and abundance of bull trout and Dolly Varden. Report No. RAD97-

05. Washington Department of Fish and Wildlife. Olympia, Washington.

Crawford, B. 1997. [Letter to Mr. Robert Ruesnik, Field Supervisor, U.S. Fish and Wildlife Service]. Located at: Washington Department of Fish and Wildlife. Olympia, Washington.

Department of the Interior, Fish and Wildlife Service. 1997. Endangered and threatened wildlife and plants; proposal to list the Klamath River population segment of bull trout as an endangered species and the Columbia River population segment of bull trout as threatened species. Federal Register Doc. 97-15314. Vol. 62, No. 114. Pp. 32268-32284, Department of the Interior, Fish and Wildlife Service. Washington D.C.

Kalispel Natural Resource Department and Washington Department of Fish and Wildlife. 1997. Kalispel Resident Fish Project Annual Report 1995. Project No. 95-01. Bonneville Power Administration. Portland, Oregon.

Spruell, P. and F.W. Allendorf. 1997. Nuclear DNA analysis of Oregon bull trout Final Report to the Oregon Department of Fish and Wildlife. Wild Trout and Salmon Genetics Laboratory. Report 97/5. University of Montana. Missoula, Montana.

Washington Department of Fish and Wildlife. 1997. Washington State salmonid stock inventory: bull trout/Dolly Varden. Washington Department of Fish and Wildlife. Olympia, Washington.

Section 8. Relationships to other projects

The project will be conducted by the WDFW and YIN and will include collaboration with the Oregon Department of Fish and Wildlife to compare results obtained for bull trout in central Oregon under the FWP.

Section 9. Key personnel

Key personnel will be identified for this project upon project approval for funding. Personnel identified to work on this project will meet the minimum qualifications set by the Washington State Department of Personnel.

Section 10. Information/technology transfer

Information obtained from this project will be distributed by annual technical reports, presentations at scientific reviews and presentations at public meetings.